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Towards a Long-Range Solution to the Commercial Farm Problem

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and may develop this sensitivity by eating meat containing residues. *But when approved quantities of medicated feeds are fed, no antibiotics have been found in tissue at the time of slaughter.*

Diethylstilbestrol. Used as an implant or a feed additive. Implants in cattle and sheep of the drug provide little concern unless these implants enter the muscle or fat tissue. No residues will remain if feeding of rations containing diethylstilbestrol is stopped 48 hours before slaughtering the animal.

Organic Arsenicals. The organic arsenicals are also under scrutiny at inspection stations. If any evidence of arsenical acid poisoning in hogs is observed, an analysis is made to determine the amount that might be in the meat.

Injectable drugs. Tranquilizers are the injectable drugs that have caused problems. There are some questions about current recommendations for their use. Animals should not be slaughtered for at least 48 hours after the use of tranquilizers.

Meat inspection has revealed errors in use of needles and syringes. For example, in 1963 and 1964 meat packers reported extensive losses from hams stained with injectable iron. Iron staining has also been observed in beef carcasses.

Insecticide Residues . . .

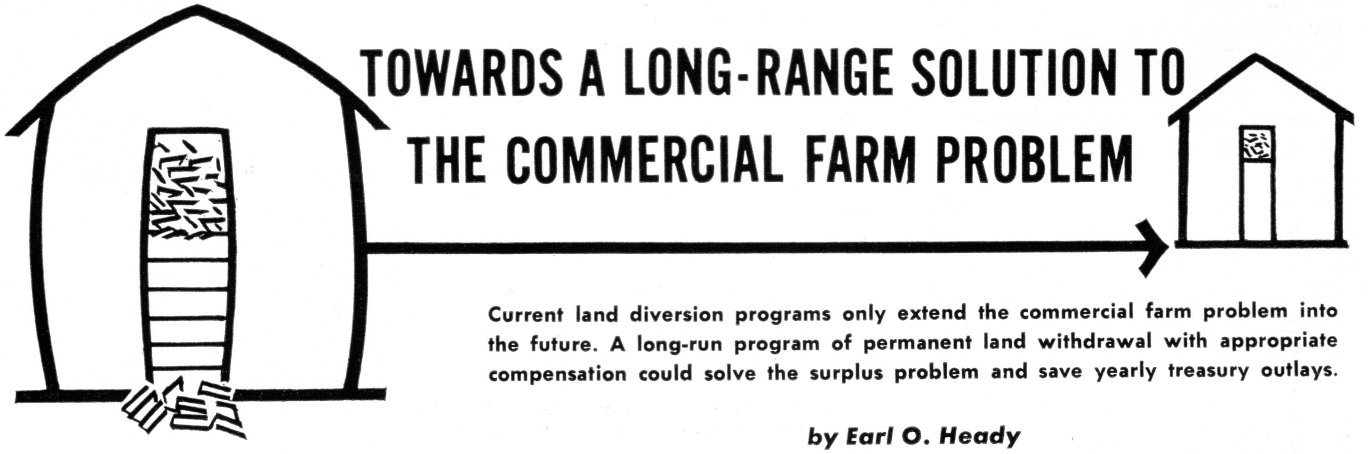
Insecticides, more than any other agriculture chemical, may leave residues in meat. Drugs such as DDT can accumulate in animal fat from small repeated exposures. These drugs can be detected only by chemical tests.

In general, the chlorinated hydrocarbons are eliminated very slowly from animals. It has been estimated that a concentration of 500 parts per million DDT in humans would require about two years to be eliminated even if there were no additional exposure during the period.

Meat inspection officials are concerned not only with the toxicity of insecticides but with treated animals. Aldrin, for example, is epoxidized to the long-lasting insecticide, dieldrin, in the animal's body. Heptachlor is metabolized to heptachlor-apoxide – which appears to be several more times toxic than the original compound. Organic phosphate compounds such as Co-Ral, ronnel, ruelene, and malathion, however, are not accumulative, nor do they persist in the tissues.

Residues in excess of the established tolerances can be avoided by using only insecticides specified for livestock use and by carefully following the label directions. *A required interval must be allowed between last use of the insecticide and the animal's slaughter.*

The Meat Inspection Division of the Agricultural Research Service, USDA, lists pesticide chemicals, their approval status for use on slaughter animals, their tolerance in meat and revised withdrawal times for feed additives. This information is presented in tables 1 to 3.



TOWARDS A LONG-RANGE SOLUTION TO THE COMMERCIAL FARM PROBLEM

Current land diversion programs only extend the commercial farm problem into the future. A long-run program of permanent land withdrawal with appropriate compensation could solve the surplus problem and save yearly treasury outlays.

by Earl O. Heady

THE BASIC problems of commercial agriculture stem from national economic growth and the resulting changes in the relative prices of resources. They are long-run problems. *And long-run policies are urgently needed,* not only to provide actual solutions to the commercial farm problem but also to solve the parallel problems of the rural community.

Current production control programs are publicly acceptable because they bolster farm income, provide monetary awards for cutting output and because participation in them is voluntary. They do not, however, promise a long-run solution to the commercial farm problem. Without a more fundamental long-run policy, large monetary outlays will continue over the next two decades, and the basic problem will remain unsolved. Figures indicate that the "surplus capacity" problem of American agriculture is likely to grow in the decade ahead. We don't stand a chance of "eating it up" ourselves through growth in population and national income. It is time, then, that we thought about turning from short-run emergency programs, which assume that "if we

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can live it out" for a year or two, the problem will disappear.

This analysis provides one set of elements for a long-run solution. Others also exist.

Substitution of Capital . . .

Farms and other firms of rural communities are beset with a common set of problems stemming from economic and technical development. The major change is in relative prices of resources. The cost of one resource, capital, is declining relative to the cost of land and labor. Capital — which has a high replacement rate with labor— is being introduced rapidly to give a highly mechanized agriculture. With great capacity and high fixed costs of machine capital, there are strong pressures which result in larger and fewer producing units.

Family farms are not eliminated but mainly grow larger and fewer. And a smaller farm population remains to be serviced by the nonfarm sector of rural communities.

This same phenomenon of low capital prices relative to labor prices causes other rural business firms to become automated and replace labor with capital. Here, too, capital can be used efficiently to attain lower unit costs only if there are larger and fewer grocery stores, schools, churches and other institutions and organizations in the rural community.

In contrast to opportunities in urban centers, however, the isolated rural community does not have "growth industries" to absorb the displaced labor.

Capital also substitutes for land. With increased capital, a given food output can be produced from a smaller acreage. Consequently, if the land replaced by capital is not withdrawn from crop production or shifted to other uses such as forestry, recreation or grazing, the nation has surplus food capacity. This large output depresses farm prices and incomes.

Economic studies of the nation's agriculture indicate that around 50 million acres currently could be shifted from crop production to some other use. (A portion of it already is shifted under various land diversion programs.) Projections of population growth, domestic food demand and technological progress indicate that this surplus crop acreage will grow to over 75 million acres by 1980.

The problem of surplus capacity is not a momentary problem. It will not be solved by temporary policies geared to the expectation that the basic cause will evaporate in the next few years.

Temporary Policies . . .

Farm policy legislation employed since the 1930's seems to be based on the belief that the excess capacity and resource problem is temporary and short-run in nature. Consequently over a period of three decades, the nation has invested enough to have solved the main elements of the national problem. Yet, because of the assumption that the difficulty is temporary, the problem remains as deeply imbedded as ever. In addition, the treasury costs of containing it have grown rapidly.

The permanent solution to the surplus capacity problem requires large regional shifts in land use. (See FS-1106, "Regional Impact of Retiring Whole Farms.") The shifts must take into consideration the relative advantage of different regions, the size and distribution of the consuming population and the different levels of farm technology in the nation. The major emphasis in farm policies over the past three decades has been in the opposite direction; there has been fractional withdrawal of land in all producing regions. Land on farms in regions with high advantage, along with land on farms in regions of low advantage, has been withdrawn from production. Land is withdrawn largely through voluntary programs based on diversion payments, acreage allotments, and price support programs based on acreage quotas.

These programs have been used systematically and almost continuously for several decades. The programs have been expanded to keep pace with the substitution of capital for labor and land and the growth of technology. But they do not provide a permanent solution to the problem. As soon as the program, based either on payments or quotas, is lifted, idled land is immediately returned to production. Lifting existing programs would greatly increase output immediately and, in the absence of offsetting storage policy, greatly depress prices. (See also FS-1133, "Making Agriculture More Efficient.")

Long Range Possibilities . . .

Since the initiation of supply control policies in the 1930's the nation has spent nearly $50 billion in direct payments to reduce output and in realized commodity storage losses. Nearly half of the $50 billion has been spent in the 1960 decade. The $50 billion would have purchased 680 million acres at national average land prices over these years. It would have purchased over 200 million acres of cropland at $200 per acre. This much land is far greater than the surplus acreage, indicated previously, for either the present or 1980. (Total cropland in the United States is less than 500 million acres.) *Therefore, the surplus capacity could be eliminated permanently at lower costs than the total outlay of the last 30 years, and resources could be shifted to more urgent national uses.*

Had this surplus land been purchased and withdrawn permanently from production, an alternative requiring less than the $50 billion indicated above, the problem would have been eliminated.

It seems time to begin devising long-run policies which (a) use the public outlay to bring about a permanent solution, and (b) which recognize all the people in rural communities and their capacity to change. Otherwise, the large monetary outlay will continue, and the problem will still remain.

But it is possible to design a 10-year program which would actually solve the problem and allow diversion of some money now used for agriculture to provide other public services. With a larger population, greater per capita income and increased leisure time, the desire for public services should grow rapidly.

The shift to a permanent agri-

culture program could be taken step-by-step, extending over perhaps a 10-year period. This would limit the annual treasury outlays required to attain program goals and the burden of change on the nonfarm population in rural communities.

The Proposal: Massive Adjustment . . .

A permanent program cannot be accomplished in one or two years because of the tremendous reorganization and migration burden. The adjustment program would involve the shift of large amounts of land in wide areas used for intensive fiber, grain or hay crops to uses such as recreation, forestry and grazing. Much larger and fewer farms are implied everywhere. Some farmers could, through appropriate payments and compensation schemes, be made better off away from agriculture.

Because of reduced farm population and farm purchases, merchants and others in rural communities would be faced with losses in demand for their services. Massive and sudden adoption of the proposed policy might be made costless to farmers but would transfer the income problem from farm families to the nonfarm population and rural community institutions. For this reason, regional land use adjustments which could provide a permanent solution to the surplus capacity problem would be politically acceptable only if applied in a restrained and deliberate fashion. The adjustments must be accompanied by instruments of policy to compensate for the losses to the nonfarm populations in rural areas.

Current Programs . . .

Current programs do not arouse political resistance of the type suggested above because they limit land withdrawal in any one county. They disperse the withdrawal over all regions and even over most farms rather than concentrate it in areas of less advantage. Thus, the programs do not alone force, or even directly seem to cause, the increased population exodus. Also they do not cause a clearly detectable income loss or decrease in service demand for the nonfarm segment.

But the problem is still there; it is only dispersed and extended into the future. Therefore, we must start from where we are with diverted land widely scattered over all regions and gradually begin a permanent contraction of the agricultural plant through the regional concentration of diverted land. The time period and the means for carrying out the program should be structured to make the program economically and politically acceptable to the rural communities.

Four steps would be required for this objective.

1. *Estimation of the amount and location of land to be diverted from surplus crop production to more urgent uses.* We should estimate how much land will be needed for 1975 domestic and export food uses. The location of land not needed for conventional crops can then be indicated and the total cost of diverting acres to other uses can be estimated.

2. *Step-by-step adjustment to regional patterns of diversion.* Starting with existing land diversion programs, acreage withdrawn from crop production should be concentrated on a regional basis. The concentration rate should not exceed the ability of rural communities to absorb the production losses. A period of years should be alowed for adjusting to this regional basis of land diversion and surplus control.

3. *Methods of compensation for farm families.* Many choices exist in land diversion payments and compensation for participating farm families. A widely acceptable one would need to be adopted.

4. *Credit programs.* Reallocations of land from field crops to grazing and forestry would require larger farm units in the major adjusting regions. Also, stocking land and planting trees would require additional investment by farmers and ranchers. Because of this, special credit facilities would be needed to help combine farms into profitable size units and to span the period of diversion and development.

Compensation for Nonfarm Sectors . . .

Programs which promise permanent solutions to farm surplus problems will never be politically acceptable, however, as long as they solve the income problem of one group by imposing an equal income problem on another group. Neither can a gain in total welfare be guaranteed under such a scheme.

While the Conservation Reserve Program — had it been extended to a sufficient acreage — was a step towards systematic land diversion, it met great political resistance. It threatened to increase off-farm migration and to reduce demand for goods and services in rural areas. Consequently, minimum compensation must be provided for the nonfarm population in rural communities required to make large scale shifts in land use, farm size and farm population.

This minimum compensation might include, among other things: (1) a 10-year averaging of income tax payments, (2) federal and state aid to education designed specifically to offset reductions in the property tax base for these regions, (3) retraining facilities for persons already in the work force and desiring to shift to alternative occupations in other locations, (4) subsistence payments to selected qualified persons during the retraining period, (5) special educational scholarships for eligible youth, and (6) the possibility of beginning social security payments at lower ages (perhaps as low as 55) for persons forced from employment without alternative prospects.

This list is only suggestive. Numerous other alternatives exist. In any case, the problems of adjustment would be mammoth, and the means used for compensation would need to be widely acceptable. Also, programs should generally be of a voluntary nature if a real increase in welfare is to be guaranteed for both farm and nonfarm population.